

### **REMARKS**

Claims 1-2, 4-7, 10-11, 13-16 and 24 are pending in the application. Claims 3, 8, 9, 12 and 17-23 were canceled. Independent claims 1 and 10 were amended to recite the limitations of canceled claims 3 and 12. Claims 6, 7, 13, 14 and 16 were amended and claim 24 was added to further define the present invention.

No new matter was added. Support for new claim 24 is provided in paragraph [007] of the present specification.

For at least the reasons set forth below, withdrawal of all outstanding rejections is respectfully requested.

### **Prior Art Rejections**

Claims 1-8, 10-12 and 15-22 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,115,427 (Calderbank et al.).

Claims 9, 13-14 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Calderbank et al. in view of Fig. 1 admitted prior art and an excerpt from a book authored by Proakis.

#### **1. Patentability of independent claims 1 and 10 over Calderbank et al.**

Claims 1 and 10, as amended, each recite, *inter alia* (underlining added for emphasis):

mapping the plurality of information bits into a first set of quadrature phase shift keying (QPSK) symbols and a second set of QPSK symbols, wherein every successive predetermined number of information bits are mapped to a first QPSK symbol and a second QPSK symbol in one symbol period in accordance with a mapping table, and the predetermined number of information bits is three.

Amended claims 1 and 10 each recite that the predetermined number of information bits is three. This limitation is not disclosed or suggested in Calderbank et al.

The Examiner states that an unidentified table in Calderbank et al. discloses the information bits being three. However, the table at column 6, line 60 through column 7, line 9 of Calderbank et al. discloses that two information bits are used with the 4-PSK of Fig. 4(a). The

table at column 7, lines 51-61 of Calderbank et al. discloses that three information bits are used with an 8-PSK that is disclosed in Fig. 4(b). Neither these tables or any other portion of Calderbank et al. discloses three information bits that are mapped to a QPSK, as recited in claims 1 and 10. For at least this reason, Calderbank et al. does not disclose or suggest the invention recited in claims 1 and 10.

Accordingly, claims 1 and 10 are believed to be patentable over the applied reference.

2. Patentability of the dependent claims

The dependent claims are believed to be patentable over the applied references for at least the reason that they are dependent upon allowable base claims and because they recite additional patentable elements and steps.

**Conclusion**

Insofar as the Examiner's rejections were fully addressed, the present application is in condition for allowance. Issuance of a Notice of Allowability of all pending claims is therefore requested.

Respectfully submitted,

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